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INDIVIDUAL PROJECT METHOD

An Example of Its Operation in a Seventh Grade

At the outset let me distinguish between two types of more or less "free work," both in general parlance going under the title of "projects." One may be exemplified by a class or group under somebody's leadership deciding to make a scrap book illustrating by newspaper clippings the French aviator's proposed world flight. The other type may be illustrated by a boy saying to the teacher, "I have a toy wireless set at home; I'd like to bring it to school and set it up and study about it and show the class how it works—find out who invented it, and so on." We might consider the first example a "group project." It is, I should say, what we meant a few years ago when we talked of "motivated work." It contemplates the co-operation of several people, perhaps of a whole class. The initiating and carrying out demand a leader or director of importance, probably a teacher. Its virtue lies in the interest which the scheme arouses in the pupils and in the necessary amount of social co-operation. The second example is of a type of work much newer in the schools. It demands the working of one pupil, or possibly of a very small, self-chosen group. The workers are self-directed. It is of this second type of activity, "the individual project," that I wish to speak.

PURPOSES

A small number of teachers scattered over the country are experimenting with it. They all, doubtless, look to Dr. Kilpatrick of Teachers' College and to Dr. Colin Scott of the Boston Normal School as the developers and promulgators of the philosophy. For a philosophy it is—an idea that stimulates thought and action, not a method to be copied. Every one who falls under its spell sets about forming his own purposes and devising his own scheme of action. In an attempt through three years to act under the inspiration of the theory I have felt myself actuated by the following aims: to increase intensity of individual action; to preserve individual differences; to train the power of choice; to train the habits of self-direction and of self-stimulation; to train the power of self-judgment; to stimulate the habit of putting one's powers at the service of others.

Let me elaborate these aims a very little.

1. *To Increase Intensity of Individual Action.*—Is it not true that most people work for the greater part of the time at low speed and that there are always frequent lapses of effort when the mind wanders and time is wasted? I should like to bring it about that my pupils work harder than they have ever worked before, that the times of concentrated effort be longer and more frequent than is usual, that the children have the conscious intention of applying themselves concentratedly and intensely.

2. *To Preserve Individual Differences.*—There were thirty-three people in the class described, with different homes, different parents, different inheritances. They had various characters, interests, and abilities. I should have liked to preserve the interesting and valuable among these differences. I should have liked to have these children remain, not thirty-three copies of one person, but a variety of persons; for a world of diversity is a more interesting, more powerful, more effective world than one in which we might all be alike. If we want originality in the future, we cannot get it by training in conformity during the twelve most impressionable years.

3. *To Train the Power of Choice.*—Is it not true that only in so far as we are able individually to make more or less independent personal choice are we useful to the world? People who always wait to follow a leader, always wait for suggestion, are a clog on the wheels. Again, if what we want in the people of the future is the power of choosing, we teachers must not through twelve years be making the choices.

4. *To Train the Habits of Self-Direction and of Self-Stimulation.*—In business and industry that man is a nuisance who, after he has been given a job to do, is always referring to his superior for directions as to how to do it and where to find the material, and for decision as to whether he is right as far as he has gone. He soon has to give place to a man who can take up a job, make sure of its purposes and of the limiting conditions, and then relieve his superior of all worry over it until it is done. Are we training our children for this kind of self-direction?

5. *To Train the Power of Self-Judgment.*—We ought to learn from every experience. "We fall to rise, are baffled to fight better." But how is this possible except as we learn to judge the success and failure, the value, of what we do? Few of us, perhaps, feel

any confidence in our own judgment of anything, our own tastes, our own efforts least of all. Therefore we accept the loudest opinion of neighbors or platform or press. Why? Does the answer lie in the fact that for eight or twelve or sixteen years we have been trying to live according to someone else's judgment and have been seeking to gain the symbol of his favorable opinion?

6. *To Stimulate the Habit of Putting One's Power at the Service of Others.*—Of late the educational world has been talking much of the "socialized recitation." This means, does it not, that we believe the chief purpose of education to be the making of individuals who will be useful group members, whose ideal is one of co-operation, of service? Is there a possibility that such socializing is only putting a camouflage roof over a very unsocial house, that a school organized on the basis of group recitations concerning academic subject-matter is an autocratic, unsocial organization? Is it only as people associate themselves into continuing or dissolving groups, directing themselves in the working out of their own purposes, themselves meeting the difficult problems of the varied temperaments and powers and faults of the members of the group, that they are in a really social atmosphere?

CONDITIONS

The attempt I am to describe was made in a small room, holding thirty-three children of a seventh grade. Our working day was from 8:50 to 3:30 with a half-hour every day for a general school morning exercise, and an hour at noon for luncheon and play. A few subjects were taught by special teachers at set times. These were music, gymnastics, mathematics, and modern language, all occurring in the afternoons. Let me confess that I had not the courage to leap into the water without a good old life preserver that I knew I could trust. So I kept a teacher-directed course in history running through the year. Of all these directed classes I say nothing, nor do I describe some additional important class projects—making desks for our whole class, hand-lettering and illuminating a quotation for our gift to the seniors, a study of naturalization in the United States, a study of the world crop. It was possible for the children to use the library, the clay shop, the manual training room, the science laboratory. We had for our own use as a general work shop what was originally built as a play house in our back yard. Now and then it was possible, in spite of crowded programs, to get the help of other teachers in case of special need. Most of the

time every day was unallotted, to be arranged as seemed best from day to day. Each evening I made the program for the following day, remembering what things were on the docket and making the necessary arrangements. Sample programs may be useful.

8:50—Announcements and report on home work
 9:00—*Report on gasoline motors
 Spelling test and dictionary drill
 *Report on farm implements
 10:15—Individual study
 11:00—Morning exercise
 11:30—Outdoor play
 12:00—Luncheon
 12:25—Workers of the Middle Ages (history recitation)
 Special group for those needing drill in writing
 1:00—French and German
 1:35—Reading of *Long Will* (by teacher)
 2:10—Government of Turkey (by another teacher in answer to questions
 previously asked by children)
 2:50—Printers work on desks
 Others, home

8:50—Announcements and report on home work
 9:00—Factory system (history recitation)
 *Mirrors and angles. (Recitation following previous report)
 *10:00—Individual study
 11:00—Morning exercise
 11:30—Outdoor play
 12:00—Luncheon
 *12:25—Report on battleships
 1:00—Arithmetic
 1:35—Reading of *Long Will*
 *2:10—Handwork

8:50—Announcements and report on home work
 *9:00—Report on armor
 Great men (history recitation)
 *10:00—Individual study
 11:00—Morning exercise
 11:30—Outdoor play
 12:00—Luncheon
 *12:25—Correcting of written account of report made for record book
 1:00—Arithmetic
 *1:35—Criticism of covers for record book (by art teacher at our request)
 2:10—Group 1, printing
 Group 2, hand-lettering

*Connected with individual projects.

Each morning such a program was read to the class and posted for their consultation. It may be observed that only one hour is more or less sacred and unchangeable, and that is the ten o'clock period for individual study. In order to make clear what is meant by individual study, I show a list of the class with the subjects upon which each was working for that hour on a certain day.

SUBJECT—INDIVIDUAL STUDY

*B.	Paper making
B.	Wireless
*B.	Typing
C.	Historical pageant
*D.	Paper making
*E.	Paper making
F.	Absent
F.	Mirrors
F.	Weapons
*H.	History of art
J.	Forestry
J.	Wireless
*J.	History of sailing ships
*J.	Paper making
*J.	Mimeographing
J.	Wireless
J.	Writing a play for his puppet theater
*J.	Absent
*K.	Stars
*L.	Historical pageant
*L.	Absent
L.	Early maps
*M.	Absent
*M.	Making hectograph
M.	Armor
P.	Photography
*P.	Armor
R.	Writing a play for the puppet theater
T.	Railroads
W.	Mimeoscoping drawings of airplanes
W.	Tanning
W.	Rocks
W.	Wireless

To quote a little description of this period, written by one of the children :

*In all lists names of girls are starred.

"We are everywhere at once—some in the shop making a theater, some in the library poring over books, some in the laboratory making experiments, some in the art room printing, and still others in the class room doing almost everything."

The following list will give an idea of the types of handwork chosen. The whole class was studying printing, but on account of the large size of the group and the small size of the print shop, only a third of the class could work there during a quarter. At the time the group of eleven was in the print shop, the others were engaged on their individual projects.

SUBJECT—INDIVIDUAL HANDWORK

- *B. Dressing historical doll
- B. Box of electrical apparatus
- *B. Clay modeling
- C. Clay book ends
- *D. Dressing historical doll
- *E. Printing
- F. Making airplane
- F. Printing
- F. Printing
- *H. Printing
- J. Absent
- J. Drawings for wireless
- *J. Mechanical drawing
- *J. Dressing historical doll
- *J. Printing
- J. Printing
- J. Making puppet theater
- *J. Absent
- *K. Printing
- *L. Making mimeograph
- *L. Printing
- L. Printing
- *M. Absent
- *M. Making mimeograph
- M. Printing
- P. Putting up telegraph line
- *P. Printing
- R. Making puppet theater
- T. Making puppet theater
- W. Absent
- W. Putting up telegraph line
- W. Printing
- W. Drawings for wireless

A word of explanation as to the appearance of both handwork and individual study. In my first attempt, a year earlier and in another school, to teach according to the project method, I felt distressed by the fact that practically all the projects were manual ones. At first I hoped that the installing of an aquarium, the making of a model sawmill, the drawing of different types of arches, would lead out into intellectual activities, would send children to books for further information, would drive them to written composition for the sake of record or report, would send them on excursions or investigation. But that kind of thing happened very rarely. F. was satisfied to install the aquarium and care for the fish. A. printed her calendar and had no desire to learn about the history of printing. At the beginning of last year, therefore, I had a little talk with the class, in which I pointed out the two kinds of work that people need to do, and we agreed to have two periods in the day for individual projects, one to be reserved for those activities demanding chiefly use of the hands, the other for those needing especially intellectual exercise. This little device seemed to solve the problem, for most children really do care about getting the experiences they think they ought to have. It is surely right for children of this age to begin to be conscious of their mental processes and their mental needs.

A few examples may show the kinds of projects that the children pursued and the manner of working. Two girls, L. and M., came to me one day and said they thought they would like to make a mimeograph for themselves like the one in the room. I said, "Very well, you had better make a drawing." This they did, and they went to work by themselves in the outdoor shop during the handwork period. After a few days they wanted to know what kind of a report they could make. I said, "Oh, are you going to make a report?" for I had not thought of this handwork going over into anything more intellectual. "Oh, yes," said they. They thought they might give a play showing how to use a mimeograph. I approved, and after a few days they presented three plays that they had written and wanted me to choose the one that I thought the best. I read them, wrote my criticisms, and returned them. A day or two later I found that they were not only studying mimeographs, but investigating other duplicating devices. They used for reference "The World Book," and one of them visited her father's office. Besides, they were using the typewriter and mimeograph in

the room and in the school office. After a week's absence of my own I returned to the school to find that M. was making a hectograph. She had found the recipe in "The World Book," had gone to the store and bought glycerin, had brought gelatine from home, and had made a hectograph. When the group gave their report she successfully duplicated copies of the program as souvenirs.

M. decided he wanted to study about armor. He made a book of ten drawings, illustrating armor from the time of the Greeks to the Middle Ages, with rather full notes, calling attention to the changes and to points that the ordinary observer might miss. The matter of getting these notes into good form was a difficult and serious one for a boy who has much trouble with spelling.

Three boys decided they wanted to make a toy theater. They began without having planned it very definitely. The scrap lumber which was given them was perhaps discouraging, or at least uninspiring. After they had worked for several days in the outdoor shop, I went out to inspect. The theater was a sad looking affair. There was not a straight line in it, there were no square corners, the nails were too long and had been turned over, everything was askew, and every piece was covered with "rose buds." I told them very frankly what I thought. They said, "Well, it isn't looking very well. It's hard to drive the nails." I asked them whether they would like better wood. I suggested screws instead of nails and reminded them of what they had learned about try-squares and counter-sinks in making tables. They applied to the manual training teacher for better wood and began all over again. Pretty soon, while I was out of school, I received a letter from J. saying, "We have got the theater almost done—not a nail in it!" I do not think that that was a waste of wood. The second theater I consider a creditable piece of work, and the boys aver that they learned much in making it. Whatever they learned came by experience, and that sort of knowledge is doubly valuable.

The story of the completion and dedication of the theater is of some interest. On a certain Friday we were to give a party for the seniors. The theater group and the rest of the class felt that a puppet show would add to the joy of the occasion, but the theater was far from done, the puppets were not made, the scenery was unpainted, and the play was unlearned. "If you would let us work all day Thursday and Friday, I know we could finish it," said one of the boys. The request was granted. The group worked like

beavers, and the play was presented. It was not a great success, and the boys found that the presentation of a puppet show involves more problems than they had dreamed of. Four other plays, however, were given after more preparation, and one of the group decided that his vocation in life was to be that of a playwright.

The theater, moreover, was used for the presentation of a play by another group, and stimulated two other children to make a similar building. For J. and J., both girls of considerable manual skill and executive power, told me one day that they were making a toy theater at home and that the puppets were to be operated by magnets. One day, two weeks later, after school, they ruefully said that they were rather discouraged about their theater. "It looks like a box." The next day they brought it to school and showed it to me. After a little discussion, they became fired with the idea of making a wooden front in the shape of a Greek temple. They drew sketches and made measurements and went down to the manual training shop for wood to take home. It was only a few days before the theater came back, looking very interesting, with little clay decorations, a pretty blue-and-white curtain, and a painted scene all complete. In the meantime the girls had written a play based on *Horatius at the Bridge*. The only things left to do in school were to paint the woodwork white, make the puppets—without the unruly magnets, alas!—and learn the parts.

Two or three times, when given opportunity to choose his own homework, R. K. reported "Tanks," and I made inquiries as to how he was getting his information and what he was going to do with it. "Oh, I read about them in the *Scientific American* and I am clipping pictures of them from the newspapers. I want to make a report to the class." After a few more days he brought me a paper which he had planned as a climax to his report. It was called "A Surprise on the Germans." Soon he brought all his pictures and asked for a large card to paste them on. The result was a pictorial chart illustrating the different kinds of tanks.

The type of project demanding only reading for its working out may be illustrated by J.'s study of Egypt. She expressed herself as wanting to learn about different religions. As to the mainspring of the choice, I am not certain—possibly it was our slight study of the origin of Christianity. The first material I could find was Maspéro's *Ancient Egypt and Assyria*. The great detail and the wealth of picture in the Egyptian chapters fascinated her and modi-

fied her purpose into that of studying the religion and life of ancient Egypt. It happened that a high school class in ancient history had already accumulated for the school a large number of Egyptian wall paintings. These she studied and with them illustrated a report so full of definite detail, well classified and centered, that she held the class intensely interested.

A boy whose uncle owned a tannery wanted to know about the tanning processes and wanted to instruct the class about them. He found accounts in two or three books, read them, and then took an afternoon to visit the tannery. He brought back a piece of raw hide, pieces of leather that had undergone different processes, and a specimen of the tanning compound. He rigged up a box to represent a drying room, cut a piece of leather into the shape of a hide and tacked it to a board, and in his report used all these materials for illustration. The most gratifying thing was his search for first hand knowledge.

REPORTS

It was our invariable custom, inaugurated with a bare suggestion and no pressure, that as soon as a child considered that his project had been carried as far as he could carry it, he should report his work to the class. After the first few reports proved successful and interesting, every child seemed to hold as a second purpose in study the preparation of a good report. We had some discussion now and then as to what constituted a good one. It was the unanimous opinion that "just talk" was not enough; that there must be drawings, models, demonstration; that it was better not to read the report; that everybody ought to be given a chance to ask questions; that it was better to make the class do some work if possible. The result was that as children worked they were planning how to make their reports successful, were taking notes for their talks, were making large drawings to show the class, were planning questions that they could ask, were trying to devise interesting and vivid ways of presenting their facts. One began his report with the question, "Do you know what rocks are?," another with, "Do you suppose that people have always been able to make maps like those we have today?" The day before two girls were to give their report on China, they said to me, "Please ask the children to ask questions about China that they would like to have us answer tomorrow."

The length of the reports varied greatly, according to the sub-

ject and to the thoroughness of the student reporting. They occupied all the way from one half-hour period to five such periods scattered over five days. A half-hour seemed to be the norm in time for good listening, though one boy held his audience through an hour of talk and demonstration. A verbatim stenographic record of the report of two girls who had studied Japan will illustrate the quality of the best of the reports. It shows, too, the amount of participation of the audience and the degree of relevancy and value in its additions and questions. When the class heard this record, be it said, they were surprised and disappointed. "It was one of the best reports of the year," several said, "and this makes it sound silly." "Those sentences sounded all right when they talked them, but when you read them they are ugly." The group had on display a goodly number of Japanese prints belonging to the school, and of little objects of wood and bronze and ivory brought from home. The person talking was constantly turning to the screen where the picture hung, or picking up some object from the table. In the following account, the introductory and closing paragraphs were not spoken at the time of the report, but were written by one of the group when she edited the stenographic report for use in the record book.

JAPANESE ART

Seventh Grade

April 25, 1919.

(Stenographic Report, edited)

Oriental and quaint is Japan, artistic in its own art as every other country; not only in painting and sketching but in music, too, for when you see the dark-eyed Geisha girls come bashfully along with their "Samisens," playing low and monotonous tones all the while, you realize Japan is quaint and oriental in everything.

Miss Hall.—Beatrice and Dorothy have been studying Japanese art—one of the last things they have studied in connection with Japan. They are going to report on Japan sometime, but they have chosen to report on the art.

Beatrice.—We are going to tell you about Japanese art. The first Japanese prints were done in black and white, and this was done for a great many years. The first colors they used were rose and green. We have a print here, which is the nearest we could get to the first prints that were made, and it shows a little green. This is a very old print. Then they added black and then yellow and then blue and then the rest of the colors. In 1900 they began printing one color over another. They did this with blocks. Dorothy will tell you about the blocks later.

I am going to tell you the names of some of the important artists, and later Dorothy will write them on the board. They are Kiyonaga, Utamaro, Yeishi, and two very famous ones are Hokusai and Hiroshige. Here are some of the very best pictures that illustrate four of the eight beauties of Omi. Omi is a little lake in Japan where the Japanese artists go to paint. There are just eight things they paint, and they call these the eight beauties of Omi. Among them are the bell tower and the fleet of boats. You will see lots of pictures of these same things but they are very different. The Japanese artists never make things natural. Here is one of Hiroshige's paintings. This is a little Japanese garden that Jessica brought. It shows you how skilful the Japanese are.

Dorothy.—Here are some blocks that Miss Clements made. She drew the design on the wood and then cut it out. The Japanese have certain kinds of knives that they use in making these blocks. Here is a piece of cloth that Miss Clements stamped. She laid the cloth down and then stamped it with these blocks. And here is another piece of cloth that she stamped. Sometimes they use more than one block. On this piece of goods she stamped the green first and then put the pink over it, like this.

Here are more Japanese prints, and on this screen are Japanese drawings. They make just a few lines, but even though they do, the pictures are very pretty. Here are some pictures that the high school boys made in imitation of the Japanese. And here are some Japanese stencils. The way they make these stencils is this: they have two pieces of paper and they pull some hairs out of their head and lay them on this paper, and then they put the other piece of paper over it. The hair makes the stencil paper stronger.

Dorothy.—Here is one that is made without hair. They don't put hair between the paper in all their stencils.

Here is a stencil that represents bridges. In some of their drawings they make their objects upside down. Here is one with a bridge upside down. This is a design of flowers, and these are supposed to be bats.

Question.—What are these stencils for?

Dorothy.—They paint through them. They make some of their kimonas in that way.

Foulke.—My grandfather and my aunt—all of my aunts—got some Japanese stencils when they were in Japan, and when they came back they stenciled almost all their clothes.

Dorothy.—Here are some little stencils and we will show how they paint through them. These have no hairs in them and are made out of a little stiffer paper.

Bernal (in audience).—You can buy those stencils any place.

Beatrice.—This is the way they use the ink. These are rubbing plates. They take a stick and wet it, and then they rub on this plate. This is an India-ink stick. (*The two girls each take a stencil and paint through it on paper.*)

This may not be very successful.

Foulke.—That Japanese writing-box I brought to school had ink of two colors, black and red.

Charles.—There are some people in the lower grades that make that kind of thing, and they use some kind of oil that they put on cardboard or wrapping paper, and it makes it tough, and then they draw the design in pencil and cut it out with a knife. They are making things in the little extra room for the third grade. Their viking ships are stenciled that way.

Miss Hall.—How many have seen those viking ships? (*Most have seen them.*) What kind of special oil do they use in making these stencils? Who knows?

Answer.—Linseed oil—the kind they get out of cotton.

Miss Hall.—No, it is made from flax seed.

Beatrice.—We are doing these in black, but the Japanese color them. And this little brush is what they write with. We will show you some Japanese writing in just a minute.

Comment.—I have heard that the Japanese make pictures of different colored sands.

Beatrice.—Yes, they do use different colored sands and they make pictures with them.

Question.—In the sand?

Beatrice.—No, they let the sand run down the paper from their hand.

Question.—How do they make it stick on?

Beatrice.—They have the paper on which they let the sand run on a level table or the floor. See, this design is finished. (*She has taken off the stencil.*) It is supposed to be wisteria. This is a little bird, but it did not turn out very well.

Ward.—When Beatrice spoke of the different colored sands, it reminded me of the Pacific Exposition in California. In one of the big windows different grains were placed in such forms that they took the shape of pictures, and the work was done by a Japanese.

Beatrice.—This is the way they write. I did this myself—I copied it from a book. I think the Chinese is much the same. This means “Happy New Year” in printing, and this is “Happy New Year” in script.

Question.—What do you mean by “script?”

Beatrice.—Script is your handwriting and printing is like the printing of newspapers or books.

Beatrice.—The Japanese prints are much different from what they were years ago. You will notice these modern ones are in all colors. These two are old ones.

I am going to show you a Japanese book. Instead of beginning at the front as our books do, the Japanese book opens from the back. (*Turning the leaves showing colored prints.*) Here is one that is very modern. Here is another. This is beautiful, but more modern. This picture shows the way Japanese draw roosters. It is not at all like ours. It looks more like a pheasant than a rooster.

My father says that in Japan the pheasants are used like our chickens. The people carry them along, dragging their beautiful plumage in the dirt. They don't count them for anything, but they think it is perfectly horrible for us to kill chickens.

William.—I know that in Japan they do have roosters with long tails just like that one in the picture. I saw a picture and they said it was a picture of the rooster that took the prize for the longest tail. It had grown very long. It was more than a yard long. They feed the roosters and do everything to make the tail grow, until maybe it stops growing, and then they bring it to a show, and if they cannot make it grow any longer, they throw it away and try another.

Question.—I wonder if they think our drawings are beautiful?

Beatrice.—No, they do not like them at all.

Miss Hall.—Do you mean to say the rooster is not well drawn?

Beatrice.—I mean the drawing is different from ours. The Japanese never do anything real—they try to make it fancy—according to their imagination.

Miss Hall.—Once in a while lately when you have been lettering and have been trying to think of a design, I would say, "Conventionalize some flower." I would try to explain by saying, "Don't try to make it realistic; do something to change it, to make it fit what you want it to." Is that what you mean?

Beatrice.—Yes. The Japanese want to conventionalize all things; they draw to suit their fancy.

Frederick.—Are the Japanese words divided up into letters, or is it learned like shorthand, and then different signs for different words like ours?

Beatrice.—Yes, each one of these is a word. Sometimes a symbol stands for a syllable instead of a word.

Someone.—I saw an American who lived in Japan and he told us that lots of signs that you think are letters are just syllables divided up and put on top of each other so that they look like one letter.

Beatrice.—That is true.

Question.—Do the Chinese read from the back of the book, like the Japanese?

Beatrice.—Yes. They are like the Japanese. Here is another Japanese book. This gives you an idea of their imagination. It is a book of wave designs. They are very beautiful, but they are not true to the waves. (*Turning over the leaves.*) All these are supposed to be wave designs.

Comment.—They look more like clouds.

Beatrice.—This one is more real, and this one shows the foam on the waves. But you see, they could not possibly be true.

John.—What is the idea of drawing things that have no meaning in them?

Beatrice.—They think them beautiful.

Miss Hall.—I think John will get his answer without anybody's saying anything, next month when he begins to plan the imaginative portion of his card. It is a matter of making a space beautiful. If you decide that a flower does not fill a space, you adapt it. Have any of you in this grade had experience in doing just this thing?

Laura.—That thing we were making this morning.

Beatrice.—Yes. Jessica made a cross in her stained glass window. It is still up there. But you can see it is more imaginative than a real cross. And it is much more beautiful. (*Still holding open the book of designs.*) Do you see this design here? It looks more like a fan than anything I can think of, but it is supposed to be a wave. It is drawn on a fan.

Here are some more Japanese prints. This one is very old. We are going to have these hanging around the room so that you may see them afterwards.

John.—I thought you said they didn't have any colors. These are in color.

Beatrice.—These were made after the Japanese began to use colors. The Japanese have a different perspective from our artists. They show the perspective by color. In this print the background is drawn in gray to make it look far away. If we want to make an object look far away, we show it in the lines.

Miss Hall.—Does anyone know what "perspective" means?

John.—We had it last year with Miss Claussenius.

Beatrice.—You probably remember last year, when Miss Claussenius showed us when we tried to draw those pictures of trees. We drew a picture of a railroad straight up and down, but drew the lines closer together at the top, and it looked far away. But the Japanese print is often colored to look far away. You see it in these pictures.

Question.—What are those little marks on the side of the picture?

Beatrice.—Those are the names of the artists. Now, in this old picture, the name of the artist is away down here, and in this one it is up there. The artist uses his name as a balance, as a part of the picture. The American artists write their names in the corner. On this print, this is the name of the picture, and this the name of the artist, balancing it on the other side. This one shows you that the Japanese don't like to make things true. A tree does not grow like that.

This one has faces of the Japanese—the artists make their faces nearly all alike—not like real people.

Miss Hall.—We need to remember that Japanese faces are not like ours.

Beatrice.—This one is much like the others. You will notice their faces. Here is a box, hand-made. Miss Hall thinks the wood is set in.

Miss Hall.—The Japanese have a way of shaving wood as thin as paper. They have very great skill in this. The top of this box is made of natural woods of different colors, and they are glued on top in the form of pictures.

Dorothy.—Here are some hand-carved chop-sticks. And here is another set with little things at the end so that you can hang them to your belt. The black ones are of ebony. I do not know what kind of wood the others are made of.

And so, having passed through the eight beauties of Omi, the prints, the sketches, the stencils, the designs, and the arts of Japan, and having realized them, we awoke with the buzzer to find ourselves not in Nippon, The Land of the Rising Sun, but in our own seats.

I have a few unanswered questions concerning these reports. One was put by a visitor. "Do they want to hear the reports?" he asked. Early in the year I had asked myself the same question, when a class often made a restless audience, so one day I said, "We have two reports ready today. Let's have them at the same time. You may choose what one you will hear." There was vigorous objection. Several people said, "I want to hear both." Some of those who were to report complained, "Then we can't hear W.'s 'Battleships!'"

Later in the year, however, no protests were made at such a division. In an attempt to get a true light on the matter of the interest in the reports, I asked the children to write on the following question:

"How do you feel about the interest and value of reports?"

With one exception all considered the reports very valuable. I quote a few interesting expressions of opinion.

"I have a chance to see and understand what some of the other members of our class are studying about and how they study their reports."

*B.

"I think from the reports I get a larger circle of knowledge in a shorter time than otherwise."

C.

"I get much information out of reports, and when I gave one it made me recall all I had studied."

R.

"I feel that reports are essential. I think reports teach all concerned."

L.

"I think that most of the reports were interesting to the class, because I think that most children of our age are interested chiefly in the same kind of subjects."

F.

"I think that some of the reports were not interesting to me, but were to the boys."

*M.

"I think there's a lot of value in reports if the report is given well, but I think that some of the reports have been sort of dull. One thing that makes a report dull is to read it and not have any pictures, drawings, or models. I think that one thing that helped the 'Battleship' report was the drawings, and I think that one thing that helped my report was the model of the real airplane."

F.

"I think they are probably the most valuable things we have had, for they have been on so many different subjects. Some of them I never thought about, but they are interesting just the same. And others I have wondered about but hadn't had time yet to study and perhaps never would have gotten time for all."

*M.

"I think the majority of reports are very good and that we get a great

deal from them, especially if we have them in written form in our note books, but on some reports I don't think the papers do justice to the report, while in others they are told better than the report." F.

"Although a person may not be interested in a certain subject, if the subject is cleverly and interestingly given it is worth listening to to get ideas from. Most of the reports given this year have been good for two principal reasons. First the material has been good, and second they have been well told." *H.

There is always a question in my mind as to how effective these reports are for the rest of the class; for one always feels that the good is to the reporter and not to the hearer. A few times I gave short tests seven or eight days after the reports were made, but with varying results.

On these pieces of conflicting evidence, I have not been able to arrive at conclusions. Did the children enjoy the reports? Did they get sufficient profit from them? Did the listening to them and the attempt to write accounts of them encourage superficial thinking? On the other hand, was the giving of the report so valuable as a stimulus to those giving it that we may be willing to risk its disadvantages? Did the listening to the variety of subjects presented do so much for the class in beginning new interests and in arousing appreciation of one another's powers that the good counter-balanced possible ill effects? During this year I must gather evidence on these questions.

After a very few reports had been given, I made the suggestion that we should keep a book of written accounts. This proved to be a very successful institution. At the end of the year it was a rather complete and illustrated curriculum of the seventh grade of 1919. Very rarely was the writing of these papers anything but voluntary. I usually offered the alternative of writing So-and-so's report or of doing something else. I give three accounts as examples. They are made up of the best parts of papers written by children who got their facts almost entirely from the report. In these cases I did the choosing and editing. At other times a committee of children did it, and such editing seems to me very good training in criticism.

HISTORY OF ART

Beauty and knowledge are the things worth while having. Another name for beauty is art. Art is truly a wonderful thing, not a thing of one country, but each and every country has its own original art. Egypt, the mother of all arts, Greece and Rome with their wonderful sculpturing,

Italy with its remarkable painting, and so on until you realize that art is a wonderful, beautiful thing to have. Art has lived thousands of years. It is impossible to tell how long it will live. During all the years of its life it has been improved upon.

How could we know the history of the Egyptians if it were not for the wonderful carving on temples and tombs? For the writing is so very strange that it was not until the eighteenth century that a stone was found that enabled scholars to read the writing. As I said before, Egypt is the mother of all arts. Her art was not perfect, no, not perfect by any means, for who was ahead of her to teach her? But Egypt is the land of columns, carving, and pyramids.



DRAWINGS USED IN REPORTS

There was an Egyptian king who spent almost all his life in building his tomb. He made pictures of his life on the walls and wrote on the walls about himself; but when he died, the people did not bury him in it because he had been a very wicked king. His name was Cheops.

The Egyptians made many monuments in the form of obelisks. An obelisk is a four-sided stone pillar of one piece, tapering as it rises. It is carved with pictures and hieroglyphics. A few years ago the government of modern Egypt gave America an obelisk. It is in Central Park, New York City. Washington Monument is shaped like an obelisk, though it is much larger.

The Egyptian temples are all much alike, and so I will describe them in general. The gate was led up to by an avenue of sphinxes and obelisks. In this avenue the people worshipped, as they were not allowed in the

temple. Just before the door there was a strange looking flat arch, called a pylon. In the temple at the farthest end was the cella where the jewel-hung god was kept. Inside the temple there was row upon row of columns supporting the roof. This was not only for strength but for beauty also. The largest temple in Egypt is the temple of Ammon at Karnak. This is really a vast forest of wonderful columns. These columns are all carved and painted. Its twelve central columns are sixty feet high and twelve feet in diameter.

Let us leave Egypt to go to a more known and beautiful art, the Greek art. This is very beautiful because it is so natural. In Egyptian drawings there is a side view of the feet, front view of the shoulders, and side of the head. They did this because it was easier to draw. The faces they made were conventionalized. Although you could not pick out what is wrong, it can plainly be seen that the face is stony and expressionless. But the Greeks knew how to make the human face look human and alive. They did not make the face and arms of their statues look dead and stiff and cold, they made them look alive and easy and warm.

There were many, many statues of men and women, and gods, and very beautiful, too. One of the seven wonders of the world was a statue of Zeus. It was made of gold and ivory and had a wreath of green gold around its head. It stood once in Olympia, but we have it no more. Another very famous statue is the Hermes of Praxiteles. It got its name from Praxiteles, its sculptor. Hermes is standing erect, and in one arm he holds the baby god of mirth and wine, Dionysos. The history of Venus de Milo is of interest. On Melos, a little island near Greece, lived a farmer. One day when he was walking he saw a cave and went into it. Inside he saw an ancient statue of a goddess. Both arms were broken off and one foot, but all the rest was perfect. He then took the statue home and sold it to a Frenchman. Then it was given to a king and put into the Louvre in Paris. Another of the wonderful works of art is the Winged Victory. Once a Frenchman went to Samothrace. He was digging and found two hundred pieces of marble. He sent them to Paris, where they were put together and found to be the Winged Victory. They found that Victory was standing on the prow of a ship. The reason that the statue is noted among the wonderful master-pieces is that the gown is draped so gracefully on the statue and the wings are placed so gracefully.

There is another lovely thing about Greece. That is the wonderful columns. There are three parts to these columns, the base, the shaft, and the capital. The capital is decorated beautifully, but on some columns it is just plain. The shaft has grooves in it all the way down. They call these grooves flutes. Columns are all designed in the most beautiful fashions though somewhat alike. Let us close here with a picture of the Parthenon, and around it altars and beautiful statues.

*B., *H., *K., *E., and *D.

LENSES

Light! What a wonderful thing it is! The rising of the sun in the great east brings light, and the setting brings darkness. We do not know

how wonderful it really is, but if it were to be shut away and all the world was involved in darkness, then only should we realize its strength. On Friday Frederick brought us to realize it a little better when he gave us a report on lenses, a very important branch of science. This report was given by a great many demonstrations and drawings. He had not only glass lenses but lenses from eyes. He had a camera, a pin hole camera and a camera obscura. He also explained that reflection means when light strikes an object it is thrown back and that refraction means that the light is bent.

It was a dreary, dingy shop with only one window, in which stood a vase half filled with water. Sitting before this was an old man with a tablet and pen. While thinking for the next verse he glanced through the window and saw to his amazement the building on the other side of the street enlarged and magnified. Why? He had been looking through the vase and water. He immediately told his friends, and they made other experiments, such as hollowing out two pieces of glass and filling them with water and then closing them. Thus was made the first water lens. There are many kinds of lenses. Some magnify, some diminish the object, while others do not do either so strongly.

There are two kinds of cameras, one is called the pin hole camera, the other is called the lens camera. The pin hole camera is nothing more than an oblong box with a covered pin hole at one end and a sensitive plate at the other end. When a picture is taken the pin hole is pointed away from the sun on the object. When the cover is taken off the pin hole, the sun shining on the object reflects in different shades off the object and the rays going straight to the pin hole go through and are printed on the sensitive plate. The pin hole is then covered again so the light does not spoil the sensitive plate. Later the sensitive plate is taken out in a dark room and is used to print the pictures on paper.

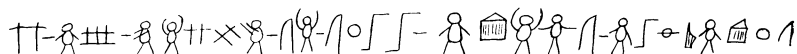
The pictures taken with a pin hole camera are not as clear as those taken with a lens because they have no lens in them by which they could clarify the rays coming from the object.

The lens camera can also be a box with a sensitive plate in the back but the front part of the box is supplied with a finder, an automatic shutter, and a lens. The finder is up in the corner of the camera, and you look into it from the top and see the object the camera is pointing at. The image of the object goes through the lens to the mirror upside down because in going through the lens it is turned upside down. Then the mirror throws it up to your eye right side up. The shutter takes the place of the cover in the pin-hole camera and can be set to stay open for a certain length of time and then to close.

The lens's action on the rays which enter the camera is to clarify them. The rays from the top part of the object, striking the lens at the top, are refracted toward the middle of the lens and are so thrown on the bottom part of the plate, and the rays from the top part of the object, striking the middle of the lens, have no middle to be refracted toward, and go straight on and so strike the bottom of the plate also. This makes it clearer than

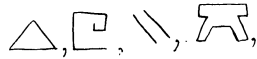
If it were not for our nerves we should see things upside down, for a lens sees them upside down. We proved this by taking a glass lens into a dark room and holding it in front of a white screen with a lighted candle on the other side. After it was focused we saw the candle very clearly but upside down. The same thing would happen to us if it were not for the little white nerve that carries the message to the brain, saying, "It is really this way, not upside down."

THE A B C'S



When we were all four or five we could talk, but we did not know our alphabet. But some people say we cannot talk without one. Well, how did the Hawaiians talk a hundred years ago? They did not have any alphabet but they talked, did they not?

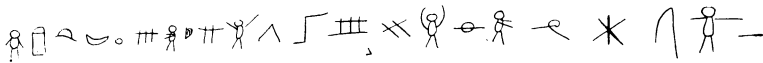
"A B C," a child says at school. Now just sit down and think and find out how alphabets were invented. "Aha!" says a bright brain from the corner, "I know how the alphabets were made. They were made up from old Indian and white men's drawings in the sand and on tree trunks like this,



What letters are those? Why, those are just a few drawings meaning something in those days. From that time on the alphabet grew more common, and when you look back at them in ancient books you can see how much more like the modern ones they grew."



The Indians used picture writing. The above could mean, "Many people are going east, and they will be there many nights," or, "Many people are going east and it will take them many nights to get there," and it may even be translated as, "Many people will go east and they will die before they return." The first figure with the fingers spread out means many, the next means east and the last means sleep. The little figures are used to represent space between words. As the picture writing could be translated in so many ways it was not satisfactory.



Now that there were alphabets they spread to every place where there were people. For instance, the Phoenician traders taught their alphabet to the Greeks, though the Greeks made a few changes. A Greek priest from a monastery in Constantinople was preaching to the Russians and showed them how to show sounds by different signs. A missionary from the United States gave the Hawaiians their alphabet. The Romans, being conquerors of much of Europe, taught the people their alphabet, and today most European people use the Roman alphabet. When the English came to America they brought the English or Roman alphabet with them. Spain and Portugal also used the Roman alphabet. When they settled South America and Mexico they spread the Roman alphabet there. So only the Roman alphabet is used in America.

There are differences in the number of letters in the alphabets of different countries. The Russian alphabet has thirty-five letters, and our alphabet has twenty-six, and the Hawaiian alphabet has eleven or twelve letters in it. The reason for this is that some countries do not have all the sounds that other countries have and so do not need so many letters. Some languages need more letters to form the words because they have

more sounds, like the Russian language.

We get the word "alphabet" from the first two Greek letters. They are alpha, beta. You can readily see the connection between them and the word "alphabet."

J., *M., *M., *K., *J., and *D.

HOMEWORK

A great deal of our children's time is given to homework. It is a common practice for teachers to plan that work, yet we cannot supervise it very well at a distance. Would it not be well for us to give our pupils in this matter the possibility of choice and of self-direction? Shall I, moreover, by my action give the child to understand that he is incapable of making his own choices and plans and of directing himself? Shall I crush his self-respect and his ambition by showing that I consider his interests of little worth? Let me not rob him of his rightful leisure—as important a requisite for right living as food and sleep and brains. Let me not discourage his forming the habit of making his own disposal of his own time. I want his life at school and his life at home to be parts of a whole—a whole that is rich, interesting, purposeful, satisfying living, not a treadmill existence.

I tried a plan of voluntary homework. There were three types of arrangement. Sometimes when there was a piece of work that needed everybody's co-operation, I assigned the work for the night. Examples of this are the writing of a paper about our year, to be printed in one of our school publications, or a piece of reading for history. Most commonly I offered two or three alternatives of work that either needed to be done or would be worth doing, and asked the children to choose. Take one night for example. Certain children chose to decorate the covers of their record books; others wrote accounts of a report given that day. We were all engaged, too, in trying to find quotations to illustrate the word "steadfast," for use in a piece of lettering we were planning to do as a gift for the seniors. I suggested that something might be found in a certain story of Socrates, and several of the children chose to do this reading. A third type of homework is more interesting. When I was rather sure that most of the pupils had something they wanted to do, I said, "What do you want to do for homework? Put a little note into my bag telling me what it is. If you can't decide, come to me for advice." I give the homework program of two such nights:

1.	2.
*B. Write play on <i>Little Women</i>	Paper on the report
B. Make plans for toy motorboat (individual project)	Paper on the report
*B. Read <i>Nicholas Nickleby</i>	Paper on the report
C. Read <i>The Pathfinder</i>	Paper on the report
*D. Write play on <i>Little Women</i>	Read and take notes on Japan (individual project)
*E. Read about Russia (individual project)	Paper on the report
F. Learn semaphore signals for Boy Scout test	Look up about Turkey for history
F. Work on telephone I am mak- ing (individual project)	Make pin-hole camera (individual project)
F. Plan my report on the Battle of Hastings	Failed to report
*H. Write play on <i>Little Women</i>	Read book on history of art
J. Drawings for Record Book	Failed to report
J. Draw subway for Record Book	Paper on report
*J. Absent	Ink drawings of ships (individual project)
*J. Read about Russia (individual project)	Paper on report
*J. Find pictures of architecture (individual project)	Finish typewritten stencil of paper for the class
J. Finish paper on report	Paper on report
J. Plan my report on explosives	Look up about the Turks for history
*J. Absent	Absent
*K. Find pictures of architecture (individual project)	Read about Washington, D. C. (individual project)
*L. Absent.	Plan color schemes for interior dec- orating (individual project)
*L. Read about Pueblos	Paper on report
L. Read about Hannibal	Study gun drills
*M. Prepare for the History test	Read about New York (individual project)
*M. Write play on <i>Little Women</i>	Make pictures of furniture (individual project)
M. Read "Lest We Forget"	Read about Children's Crusade to report to history class
P. Draw for Record Book	Read about Saint Francis
*P. Read about Hugh Capet for history	Spelling (assigned). Look up about Turks
R. Draw for Record Book	Paper on report
T. Failed to report	Read <i>The Talisman</i> . Find clipping about the world flight

W. Read book about Charles I	Absent
W. Write about year's work (assigned earlier and not done on time)	Look up about Turks.
W. Finish paper on report	Paper on report

Of course there is danger that by always choosing for homework the kind of activity most attractive to them, children may miss exercise in other activities where they need practice. Nothing is easier, of course, than to make occasional assignments to correct this trouble. When I found, therefore, that certain children who did not write well were not choosing to write papers, I told them that because of this need of theirs they must write every time there was an opportunity, and I saw to it that they planned such homework for themselves.

Up to the last month of school, it was my custom to check up in the morning on homework, to collect papers or models or drawings that had been made, or to ask for a word of report, oral or written, on such work as had not resulted in any objective thing. I felt a shortcoming in this system, however. The pupil was not sufficiently conscious of the type, quality, and amount of work that he had been doing. He was not faced with his failures and shortcomings. I might see his record stretching behind him, but he could not. So I devised the following report for the child to keep. It was tacked inside his desk top and was filled out daily. It was on trial for the last month and was faithfully and interestedly kept. Most of the class thought that it helped them to do regular and earnest work. I give examples to illustrate types and habits of work. (pps. 30 and 31).

RECORDS

I have said earlier that it seems very important for anyone who does a piece of work to judge of the success of it after it is finished. We must learn to hold ourselves up to our best; for—though it is platitudinous to say so—no one else can do that, no one else can even know what our best is. Comment from parent or teacher or employer may be sweet to the taste, but unless it is corroborated or refuted by the worker's own intelligent and honest appraising, it will work evil. If unfavorable, it will cause discontent and sourness and rebelliousness. If favorable, it will tend to create sycophancy. In either case, it will make for loss of independence and

HOMEWORK

DATE	NAME *E	PIECE OF WORK	Assigned	Chosen	To be handed in	Not to be handed in	Done on time	Done late	Time spent	Quality	Teacher's check
May 15		Read about Washington, D. C. (indiv. project)...	*			*	*		20	-	
May 16		Read Record Book and write questions.....	*		*		*		40	0	
May 19		Write on blue prints.....	*		*		*		60	+	
May 20		Triangles	*		*		*		40	-	
May 21		Read in our history.....	*			*	*		20	0	
May 22		Read about Washington, D. C.....	*			*	*		60	+	
May 23		Write paper on China (a report).....	*		*		*		60	+	
May 26		None									
May 27		Paper on China.....	*		*		*		30	+	+
May 28		Paper on China.....	*		*		*		60	+	+
May 29		Read in our history.....	*			*	*		45		
June 2		Paper on excursion.....	*		*		*	*			
June 3		Spelling	*			*			60	-	
June 4		Sewing	*		*		*		60	0	
June 5		Read about Washington.....	*			*	*		45		+
June 6		Drawing for Record Book.....	*		*		*		75	+	
June 9		Painting and sewing.....	*		*		*		60	+	
June 10		Practice telling story.....	*		*		*		20	-	

+ = good; 0 = medium; - = poor

HOMEWORK

DATE	NAME *J	PIECE OF WORK	Assigned	Chosen	To be handed in	Not to be handed in	Done on time	Done late	Time spent	Quality	Teacher's check
May 15		Reading (69 pp.).....		*		*	*		60	+	
May 16		Reading (80 pp.).....		*		*	*		75	+	
May 19		Reading (93 pp.).....		*		*	*		90	+	
May 20		Right triangles	*		*		*		30	0	
May 21		Read in our history.....	*			*	*		30	+	
May 22		Worked on world map.....		*		*	*		180	+	
May 23		Designed decoration for parchment.....	*		*		*		60	0	
May 26		Worked on world map.....		*		*	*		120	+	
May 27		Reading (71 pp.).....	*		*	*	*		60	+	
May 28		Reading in our history.....	*		*	*	*		30	+	
May 29		Read in our history.....	*		*	*	*		30	+	
June 2		Absent									
June 3		Absent									
June 4		Reading (82 pp.).....		*		*	*		80	+	
June 5		Write sand dune paper.....	*		*	*	*		30	+	
June 6		Sand dune paper.....	*		*	*	*		30	+	
June 9		Sand dune paper.....	*		*	*	*		30	+	
June 10		Practice telling a story.....	*		*	*	*		30	0	

originality. The worker ought to ask himself, "Have I worked my hardest all the while, or have I wasted time? Did I work better on this last job than I did on the one before? Is this thing I have made as good as I could have made it? Do I work as well as others do? If not, what can I learn from them? Am I getting the experience I need, or am I letting myself become narrow by always doing the same kind of thing? Am I learning to hold myself to finishing what I began? Have I contributed my share to the class?"

This year we are using the following kind of record:

PUPILS	PROJECT	DATE OF BEGINNING	NO. DAYS WORKED	DATE OF FINISHING	REPORT GIVEN

During his work and at the end of it the pupil posts these facts on this blank so that his record, side by side with the records of others of the class, is open for consultation of himself and everyone else. Upon the finishing of his project I shall, I think, ask him to report to me in writing his own judgment of his work; if he has made a report, I shall ask those hearing it to write their judgments. A discussion with the pupil of all this data will, one would think, help him to understand himself—his habits, his powers, his failures, his needs.

APPRAISAL

1. *Children's*.—It is quite necessary for me to judge the degree of success and failure of my own project, namely, the teaching of this class. In an attempt to do this I have drawn as frankly as possible from three sources—the children, their mothers, and myself. After an interesting half hour's discussion, in which I presented the following questions and in which almost the whole class talked very eagerly and very frankly, I asked them that night to write what they had to say regarding the same matters. I print here excerpts from some of the most interesting of those answers.

Question.—Has this year been in any way different from other school years?

"In grades before this the teacher has done most of the thinking and teaching, while in this grade we have to teach ourselves and others in the class as well." *J.

"If any of us had a hobby, such as wireless telegraphy, you could work it out in this grade." *J.

"The teacher has given the pupil a chance to choose for himself what he wants to study, and finding his own material from books and magazines and giving him the practice of making a speech or a report to the class when he has finished his study." *B.

"The children have taught mostly, and I like that, for it is not only good for them to have to plan their reports, but I think when a teacher, you might say, gives a report, she tells the facts and does it interestingly, but don't have the drawings, etc., and I think it is things like that that make reports most interesting." *M.

"I feel sort of sore when I miss individual study for something that I think is not near so profiting and interesting." B.

"We had to work more for what we got, and the work was done in such a way that it was fun to do it." C.

Question.—How has your work at home this year compared with that of other years?

"When you do not have much home work, you can do it better." L.

"I do not think I have done as much home work as I did in fifth grade and about as much as I did in sixth, but what I did was done willingly, and so I got more out of it." C.

"I haven't done quite as much as last year, but I have learned so much in individual study that it makes up." F.

"I think the home work has been much more interesting this year and for this reason I haven't dreaded it as I used to, especially written papers." *M.

"Other years I did my home *work*, but this year I have not done it that way but for a few times, but I think the reason is that lots of times we work on our individual study or read, and I would do that in my free time outside of school if it were not home work." *B.

"I think I have done more work this year and spent a longer time on it. For instance, when I made the cover for my Record Book I spent two hours on it, and I wouldn't have been so interested if it had been something else." *J.

"The home work this year is very different than other years,—just like everything else. I have never liked home work, because it used to mean a paper or some French or arithmetic, and I liked to read and work at things at home. So going into this grade I thought that the words home work meant the same thing here, so I have not had as much interest in it until just a couple of weeks ago, when I began to understand what home work meant in the seventh grade." J.

Question.—Have you had the experience that you need? Have you missed anything that you need?

Many said without comment that they had not had enough excursions, spelling, arithmetic. A few thought they had not had enough grammar, one not enough reading aloud, two not enough art, one not enough American history.

"If we could have had less in history and used that time for spelling, it would have been better, but I do not mean spell-downs." *M.

"I have missed spelling, and I need it, I think, because there are some words I know a girl in the seventh grade ought to know how to spell, and I do not know how to spell them. I think that almost all of us need more grammar, because I think if we knew more about grammar we could form our sentences better." *K.

"I think if we had more excursions, we would learn things a whole lot better, and I think if we had excursions with some of the reports, it would be more interesting, and if it is possible I think it would be a good plan to take the grade on an excursion to a glass factory for my report, and then the next day I would explain what they didn't understand." *M.

"What I have missed I can gain some other year, while what I have gained is of more value than what I have lost." J.

Question.—In what directions have you gained most?

"This year I think I have gained most the knowledge of common things, such as how to make paper. I also have learned how to give an interesting report." J.

"I have learned how to work by myself, and how much fun it is to work." C.

"I think the thing I gained in most was learning how to work by myself without other people's help." W.

"We have learned better how to express ourselves in words, by giving reports, and how to better express ourselves by writing papers." *H.

"I think individual study has proved to teach us more than anything else. For instance, I did not know what subways were and their purpose, as I never took the time to find out what they were, until we had the report on them, and then I found out. I think this is the case with many other children and other subjects." *D.

"I think I have gained most in seeing material and demonstrations in reports." *B.

"I gained most in individual study, because I made things, learned how to work, and was interested." R.

"This year I have learned to write better papers. I used to hate to write. I have also improved more this year in reading than any other year." C.

"To speak in front of many people." J.

"I have gained in learning how to study myself. I have gained confidence in recitations." *E.

"I think I have gained in the direction of feeling towards my work. At

the beginning of the year I had a happy-go-lucky feeling that I would just get my work good enough to pass as all right and let it go at that, but afterwards I began to want to do my work a little better and try to beat So-and-so at writing a good paper, until now I have gotten so that I try to make all my papers the best I can do." J.

"When you work yourself this way, the result isn't so good, but you learn more." J.

"I'm sure I've gained in broader interests, because before this year I had the impression that some studies were for boys and others for girls, but now I am interested in many things, such as wireless telegraphy, traps, etc. This is mostly on account of other people's work." *B.

"I think that I have gained most in self-direction. That is, judging whether I should work on my home work three-quarters of an hour or three hours, etc. When I thought I needed hard work on a certain thing I would work hard on it." F.

2. *Mothers'.*—I am disappointed in the value of the data collected from mothers, because it is not representative. Only eleven out of thirty-three replied, and of these eleven one was almost entirely ignorant of what was being done at school. The other ten replies, however, are thoughtful. Eight are in general favorable, and two unfavorable. I submit one of each type. The first concerns a boy of unusually good intellectual habits and power, who, his mother feels, did not work up to his best. The second deals with another boy, normal, thoughtful, intelligent:

Question.—Has he done much school work at home?

1. Until within the last month has done very little. Reads a great deal at all times and good books.

2. Yes, especially in getting together material for subjects selected.

Question.—Has he shown interest in his school work by talking of it at home?

1. Not so much as usual. I have had to draw out of him by careful questioning most of the information I have gotten.

2. Yes, his own work and that of members of his class.

Question.—Has he worked at it with interest, concentration, intensity?

1. No. His last paper, on the Battle of Hastings, yes.

2. Yes, with pleasure added.

Question.—Does he feel satisfied with his school year?

1. He is not dissatisfied.

2. Very much so.

Question.—What do you think he has gained?

1. I know that he has gained, but cannot be concrete.

2. (a) Independence and originality in thought.

(b) Independence and originality in gathering material for study.

(c) Observes more closely.

(d) Thought power developed.

- (e) Masters facts more readily.
- (f) Development of written expression.
- (g) Development of oral expression.
- (h) Recognizes that he is an individual and not merely one of a class.
- (i) Best of all, individual work develops initiative.

Question.—What lacks have you felt?

1. My attitude is not critical. It is ignorant. Had I seen an awakening in my child such as Mrs. ——— and Mrs. ——— have seen, I should have proof. I have seen in ——— no tangible evidence of such an awakening, rather groping and uncertainty of direction.

2. Lack of ability to read well, which is due in large measure to poor training (which he received in the public school of his home town) in the first four grades, where a child learns to read.

Question.—Has his school life affected his attitude at home?

1. Not that I am aware of.

2. Unanswered.

3. *Teacher's.*—Now I myself must answer these questions. The data on which I found my answers is perhaps not very scientific, not very methodical, liable to misinterpretation on account of the personal equation, and yet I am trying sincerely to arrive at a just judgment of the year. Let me return to the purposes which I named in the second paragraph of this article.

To Increase Intensity of Individual Action.—Several children in the class certainly did not improve in this regard. Others decidedly did so. Over and over I saw eight and ten children in our small room working for an hour at different projects, some reading, some writing, some drawing, two or three holding a quiet conference in the corner, one working at the typewriter, another operating the mimeograph, and all working industriously and not disturbing one another for the whole period. Again, when I compare the degree of attention given by these same children in one of my own recitations with the degree of attention and effort that they gave when they were engaged on their own projects, I am sure that in several individual cases the quality was much higher in the project period and that in only two cases was it lower.

To Preserve Individual Differences.—In a class recitation J.'s musing habit, his self-absorption, his slow rhythm, his slow speech, did not make for success. But when he worked alone, poring over maps and pictures for an hour at a time, comparing and re-comparing references, browsing in a book and making unexpected discoveries, he was building up a fullness and accuracy of image, a sureness of intellectual grasp, that displayed themselves delight-

fully in his report on forestry, when he talked of trees with a quiet appreciation and gentle authority that impressed even the most shallow ones of the class. A certain girl in a recitation was like an unskilled swimmer in a maelstrom, but she was a tower of strength when she had some practical job in hand, and she felt power and encouragement and won respect at the typewriter and the mimeograph and in the shop. The avidity of another was likely to drive her in impatience to surreptitious drawing or writing or reading during a recitation, but when she could go at her own gait she devoured books on Egypt or the Incas, planned her report like lightning, and gave a talk that held the class enthralled. And so I might go on. Of course faults, alas!—as well as virtue, had their chance to grow. Two boys did meet on the way to the library and exchange epithets and blows. When a little group was alone in the outdoor shop, one weak member did attire himself in a sheet meant to cover the clay model and entertain his mates with a ghost dance. When supposed to be reading a book, K. did spend much of the time gazing around the room. But is it not true that one's faults can be stamped out only when one's own will fights with them? Under outside restraint they only smoulder.

To Train the Power of Choice.—At the beginning of the year perhaps a fourth of the class were without any idea of what they wanted to do. Several others chose things that I recommended or were stimulated by the suggestion of some of their playmates. At the end of a project, many children came to me for suggestion as to what to do next. At the close of the year this was true of very few cases indeed. Several children usually had two or three schemes ahead of them, waiting for the finishing of what was in hand.

To Train the Habits of Self-Direction and Self-Stimulation.—Let me not pretend that children did not sometimes desert their work, that they did not get into trouble with one another, that they did not need help in straightening out moral and intellectual tangles, that they did not lose and destroy material, that they never forgot to put into order rooms where they had been working. Yet when I consider that there were children working all over the school building and outside it, alone or in little groups of two or three, that often some of them had no mature supervision for three or four days except such as I could give vicariously, and that under such conditions only two or three times did any teacher report disorder, and that out of such work came fifty successful reports, and that most

of the children themselves had a deep satisfaction in their work, I feel justified in saying to myself, "The class in general and all individuals in it, with the exception of three or four, have certainly gained somewhat in self-direction and self-stimulation."

To Train the Power of Self-Judgment.—Over and over a child had opportunity to compare his written papers and his oral reports with those of other children, but in steadiness of effort and speed of work he had no means of making such comparisons or comparing himself with himself at different times. In consequence there was less gain than there ought to have been. A good type of a written record of projects will, I hope, make possible a greater growth in this power.

To Stimulate the Habit of Putting One's Powers at the Service of Others.—It is my ambition to have a room in which children are living the sort of life that is lived in a big, wholesome family, with many activities going on, with varieties of temperament being expressed, with the members of the group living in free and friendly co-operation. How far was this hope realized? Two or three of the children volunteered the remark concerning So-and-so, "Oh, he is very much improved." One of the members in a public discussion said, "I think I have gained in one way: I don't seem to be getting into the trouble that I used to." In their papers concerning the year, two or three made remarks upon the interest they felt in hearing about what other people in the room were doing. A fact that I have already mentioned concerning every one's interest in the preparation of his reports to the class, speaks, I think, for the socializing effect.

Another thing that I must consider in making my judgment of the year's work is whether the children had the experiences that they need. People have asked, "Does not this method tend to leave many gaps in the pupil's sum total of knowledge?" It does. It certainly does not make for a logically developed and balanced curriculum from the point of view of subject-matter. But are there not gaps in everybody's sum total of knowledge, however he may have acquired it—in the business man's, in the college professor's, in the gentle reader's? I more and more seriously believe this: that what we need for intelligent and satisfactory living is not so much knowledge as the power to acquire knowledge and the power to apply it. Habits and skill we must get. With them we can dig out for ourselves whatever information we may need. So I refuse to worry

INDIVIDUAL STUDY

*B. Japan, paper making, †costumes, play of <i>Little Women</i>	None
B. Airplanes, wireless, motors	Airplanes, lead-casting,
*B. Peru, typing, †New Orleans, photography	Basket, typing, model
C. Animals, historical pageant, trapping	Clay lion, basket, castin
*D. Paper-making, Japan, play of <i>Little Women</i>	Apron, basket, mold an
*E. Paper-making, China, Russia, Washington, D. C.	Holders, basket, mold
F. Airplanes, †lighthouses, alphabets	Airplanes, model of m
F. Periscopes, lenses, electricity, telephone	Periscope, drawbridge,
F. Airplanes, swords, motors, Battle of Hastings	Airplanes, drawings of
*H. History of art, historical pageant	Basket, puppets
J. Animals, forestry	†Water wheel, printing
J. Subways, Panama Canal, †electricity, †wireless	Boat, canal lock, lead c
*J. Development of sailing ships (long absence)	Mold and deckle, draw cross-bow
*J. Paper-making, China, Russia	Mold and deckle, bask
*J. Animals, blue prints, interior decorating	Library work, basket, t
J. Airplanes, wireless, trapping, photographic developing	Typing, model of table
J. Animals, puppet-play, explosives	Theater, puppets
*J. Animals, Egypt, Incas (long absence)	Apron, clay modeling
*K. Animals, †stars, City of Washington, interior decorating	Holders, library work
*L. Peru, duplicating devices, historical pageant, interior decorating	†Making of mimeograph
*L. Stars, Grand Canyon, her western trip	Typing, bulletin board
L. Map-making, sailors, artillery, city water system	Drawbridge
*M. Glass, New York City (long absence)	Lead casting, model o
*M. Military insignia, interior decorating, duplicating devices, Batik	†Making of mimeograph
M. Motors, armor, story of the war	Library work, drawing
P. Subways, photography	Putting up telegraph
*P. Motors, armor (long absence)	Bulletin board, basket,
R. New Zealand, puppet plays, tanks, explosives	Theater, puppets, lead c
T. Railroads, puppet plays, "Chemcraft"	Library work, theater
W. Battleships, †Panama Canal	Library work, Panama
W. Submarines, battleships, tanning, sailors, Siberia	Drawings of airplanes,
W. Rocks, "Growth of the known world," "Chemcraft"	None
W. Airplanes, Panama Canal	Panama Canal model

†Dropped for various reasons.

†Dropped for various
Note.—In addition
making of tables for the
typewriter and the mimeo

HANDWORK

e	Paper-making, Japan
lanes, lead-casting, boat, box for electrical apparatus, basket	Airplane excursion, motors
et, typing, model of manor	Peru, photography, manor
lion, basket, casting, clay book-end, making puppets	Animals, trapping, historic
on, basket, mold and deckle, typing	Paper-making, Japan
ders, basket, mold and deckle	Paper-making, Florence, C
lanes, model of manor	Airplanes, alphabets, mano
iscope, drawbridge, telephone receiver and transmitter	Periscopes, steam engine, I
lanes, drawings of swords, canal model	Airplane excursion, railroa Canal, Battle of Hasti
et, puppets	Stars, history of art, histo
er wheel, printing on small press	Animals, forestry, stamps
, canal lock, lead casting, library work	Subways
d and deckle, drawings of ship, theater, mechanical drawing, cross-bow	None (long absence)
d and deckle, basket, towel	Paper-making, China
ary work, basket, theater, typing, cross-bow	Animals, blue prints, interi
ing, model of table, boat	Court excursion, trapping
ater, puppets	Animals, puppet plays, expl
on, clay modeling	Animals, Egypt, Incas
lers, library work	Animals, Washington, D. C
ing of mimeograph, making of hectograph, puppets	Peru, duplicating devices,
ing, bulletin board	Stars, Western trip
wbridge	Maps, artillery, Jackie's lif
l casting, model of manor	Manor, glass
ing of mimeograph, making of hectograph, puppets, dyeing	Military insignia, duplicati
ary work, drawing of armor	Motors, armor
ing up telegraph	Photography, court excursi
etin board, basket, sword, sketches of armor	Motors, armor
ater, puppets, lead casting	New Zealand, tanks, explc
ary work, theater	Shop excursion, court exci
ary work, Panama Canal model, drawings of airplanes	Battleships
wings of airplanes, telegraph keys	Battleships, submarines, ta
e	Rocks, "Growth of the kno
ama Canal model	Panama Canal

†Dropped for various reasons.

Note.—In addition to this, every one in the class had printing, lettering, ig of tables for the room; most people, also, had some experience with the riter and the mimeograph.

SEVENTH GRADE, 1918-19

REPORTS	E
aking, Japan	Dunes, blue-print shop, dunes a
excursion, motors	Airplane school, railroad shops,
otography, manor	Dunes, blue-print shop
trapping, historical pageant	Dunes, dunes all night
aking, Japan	Dunes, naturalization court, blu
aking, Florence, China, Washington, D. C.	Dunes, blue-print shop
s, alphabets, manor, railroad-shop excursion	Dunes, airplane school, railroad
es, steam engine, lenses, telephone	None
excursion, railroad-shop excursion, motors, swords, Panama	Airplane school, court, railroad
al, Battle of Hastings, court excursion	library
istory of art, historical pageant	Dunes all night
, forestry, stamps	Dunes all night
	None
ong absence)	Dunes, court
aking, China	Dunes, dunes all night
, blue prints, interior decorating, puppet show	Dunes, blue-print shop, dunes a
ccursion, trapping	Court, dunes all night
, puppet plays, explosives	Dunes, railroad shops
, Egypt, Incas	Dunes
, Washington, D. C., interior decorating, puppet show	Blue-print shop
uplicating devices, Washington, D. C.	Dunes, dunes all night
Western trip	Dunes all night, blue-print shop
rtillery, Jackie's life, city water works	City Hall
glass	None
insignia, duplicating devices	Dunes, dunes all night
armor	Airplane school
aphy, court excursion	Court, dunes all night
armor	None
aland, tanks, explosives, puppet play	Dunes, railroad shops, blue-pri
cursion, court excursion, railroads	Court, railroad shops, dunes all
ps	Railroad shops
ps, submarines, tanning, Siberia	Tannery
Growth of the known world"	Railroad shops, blue-print shop,
Canal	Airplane school, dunes all nigh
<p>Note.—In addition to these, Art Institute to see mediaeval arch mediaeval architecture; Newberry L</p>	

EXCURSIONS	DRAWINGS, C
print shop, dunes all night	Chart
ool, railroad shops, dunes all night	Cartoon, mimeoscope drawings for
print shop	Chart
all night	Mimeoscope, animal chart, poster,
alization court, blue-print shop, dunes all night	Mimeoscope
print shop	Mimeoscope chart
ne school, railroad shops, dunes all night	Mimeoscope, map of Allies
	Mimeoscope, crop map, telephone
ool, court, railroad shops, dunes all night, university	Cartoon, weapons, poster, painted
ht	Mimeoscope, cartoon, jelly tops, p
ht	Cartoon, trees, animal chart, poste
	Poster, chart, subway drawing
	Mimeoscope, ships, posters, mecha
all night	Mimeoscope, poster, chart
print shop, dunes all night	Mimeoscope, animals, puppets, scen
all night	Poster, implement chart, traps
ad shops	Crop map, scenery for puppet the
	Cartoon
op	Poster, puppets, scenery
all night	Puppets, painted window
ght, blue-print shop	Poster
	Mimeoscope
	Crop map, cathedral plan
all night	Crop map, puppets, painted window
ool	Mimeoscope, cartoon, chart, armor
all night	Mimeoscope
	Armor
ad shops, blue-print shop, dunes all night	Tank chart, poster, puppets, scene
ad shops, dunes all night	Railroad map, scenery, mimeosco
ps	Castle, mimeoscope
	Mimeoscope, cathedral plan
ps, blue-print shop, dunes all night	Map of British Empire, set of map
ool, dunes all night, University library	French map, implement chart, pos

In addition to these, all the class made the following excursions:
to see mediaeval architecture; three churches in connection with
teature; Newberry Library to see mediaeval manuscripts.

Note.—In addition to these, all t
tering and illumination in the style of
castle plans and record book covers.

DRAWINGS, CHARTS, AND MAPS	EXPERIMENTS
scope drawings for record book	Paper-making
imal chart, poster, puppets, scenery, painted window	Wireless, motor
rt	Jelly-making, photographic develop
p of Allies	Jelly-making
op map, telephone drawings	Paper-making, blue-printing
is, poster, painted window	Paper-making
rtoon, jelly tops, puppets	Lenses, mirrors, telephone
animal chart, poster	
ibway drawing	
ips, posters, mechanical drawing, castle plan, window	
ster, chart	Jelly-making
imals, puppets, scenery	Paper-making
nt chart, traps	Jelly-making, magnetic puppets
ery for puppet theater, animal chart, poster, puppets	Wireless, photographic developing
scenery	Jelly-making, explosives
window	Jelly-making
dral plan	Jelly-making, glass-making
ets, painted window	Making hectograph, Batik
toon, chart, armor, poster	
	Telegraph, photographic developing
ter, puppets, scenery	Salt
cenery, mimeoscope	Jelly-making, explosives
ope	"Chemcraft"
hedral plan	
Empire, set of maps of discovery, painted window	Tanning
plement chart, poster	Rocks, crystals, "Chemcraft"
<p>In addition to these, all the class engaged in a serious piece of lettering in the style of a mediaeval manuscript. They also made record book covers.</p>	

because this class missed the Greek myths or the geography of Africa or the science of soils. But I am concerned as to whether they had types of activity that will engender needed habits and powers. Did they have enough excursions to build up the habit of demanding first-hand observation and the habit of keeping linked up with the world at large? Did every child perform enough experiments and handle enough material to acquire skill in manipulation and to establish a habit of investigation at first hand? Did he have sufficient chance to express himself orally before an audience and to express himself in writing, so that he came to feel power and pleasure in these forms? Did he learn to use books for pleasure and for study, to use them intelligently, critically, appreciatively? Did he learn to use pencil and brush with pleasure and purpose and some effectiveness? Did he become able to use common tools with any degree of skill: hammer, saw, plane, sewing machine, needle, typewriter, mimeograph, camera, tank developer, jig-saw, wood lathe, ball and bat? My curriculum, that is, looks somewhat like this: study, experiment, excursion, handwork, reading, writing, reports, drawing, singing, dramatic play. I give such an analyzed record of this year's work for each child, omitting the things common to all—history, modern language, number, gymnastics, singing.

SUPERVISION

In answer to most of the questions I have asked as to whether the year was thoroughly satisfactory, I must say, "No." Part of the cause of the failure lies in the large size of the class. To many teachers, thirty-three will seem a small group. Alas, that it is so! For years our educational leaders have been preaching individual attention to individual needs. How can they expect to get it with a group whose numbers alone swallow the individuals? We do not want mass teaching; we want such teaching as a wise mother can give. Who ever heard of a well-mothered family of thirty or even of twenty? There was not time in an hour or so, with this class of thirty-three, for the teacher to consult with all who needed to talk with her. This difficulty resulted in rather voluminous writing of notes at night. Perhaps a few examples of these will show what type of thing took the place of the usual directing. F. had made a periscope and was later preparing to explain to the class how it operated, but the day before, on account of lack of material,

*See inserted table.

he had felt rather discouraged at the end of the hour. I found two small mirrors, concave and convex, and gave them to him the next day, with the following note:

Dear F.: Put these little concave and convex mirrors side by side, standing up, so that you can see yourself in them both at the same time. Put your face close to them. Slowly walk back from them, all the time noticing your reflection. What differences? What changes? Can you explain with drawings? Remember that the angle of incidence equals the angle of reflection.

When L. and M. were making their mimeograph they put it together very badly at the corners. I made a partial model of a half-lap joint and gave it to them with this note:

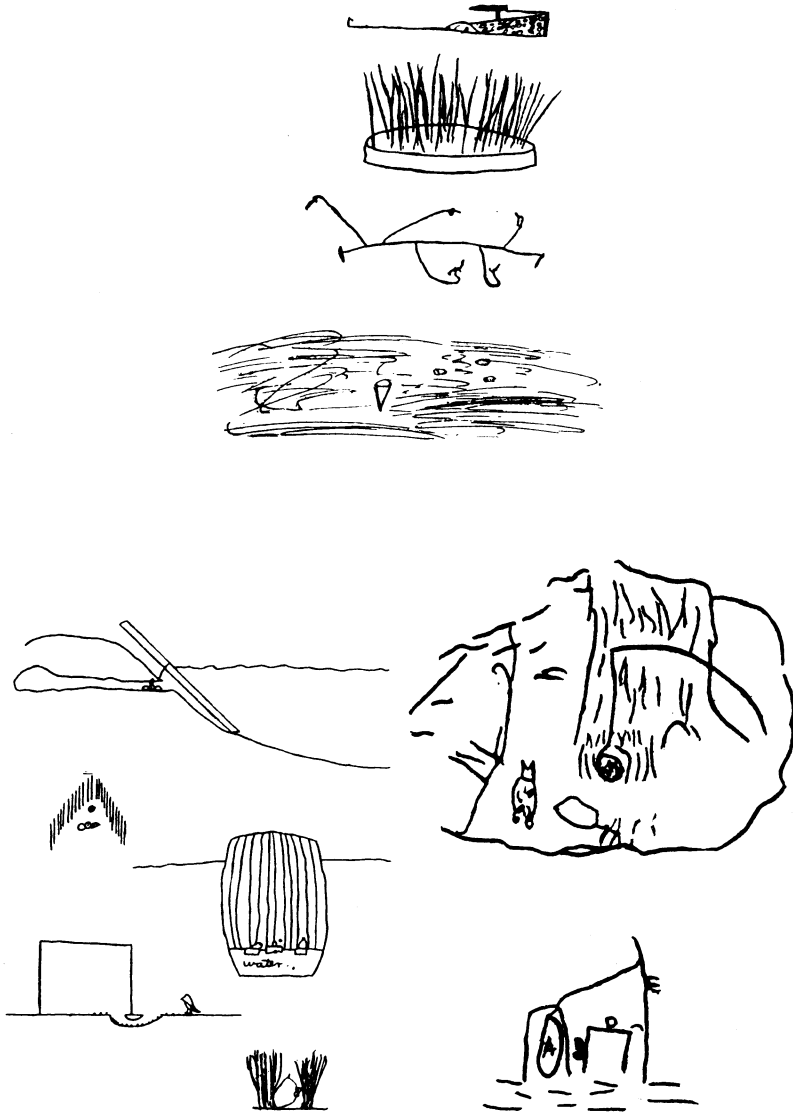
Dear L. and M.: Here is one side of a half-lap joint. Can you see what you have to do to the other piece? Mark it and show it to me. What do you think of this as a joint for your mimeograph?

The theatre group had given me a copy of a play they had written, in which a boy was arrested for a crime and brought to trial. They explained that they were planning to make a series of plays, illustrating different types of trials. (The class had been reading of the reforms in legal procedure made by Henry II.) When I returned the play the next day I accompanied it with a copy of *Don Quixote* and this letter:

Dear J.: You and R. are making plays of different kinds of trials. Is that the idea? It is a good one. I have given R. references on his mediaeval scene. I think your plot is a little "thin," as we say. Read the account in *Don Quixote*, pp. 640 to 644, and see whether you don't think that would make a very good play.

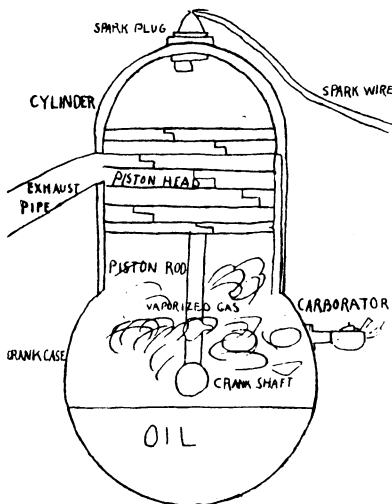
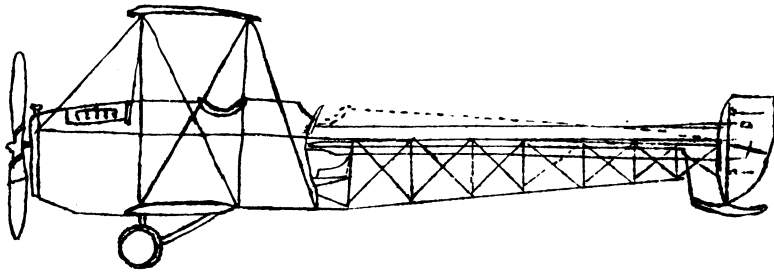
Again, a partial cause of the failure to meet the requirements of the situation lies in the teacher's lack of knowledge and skill. One teacher, I fear, cannot know well enough all the things that a group of even fifteen children of twelve years want to know and ought to know.

We were able to get for the study of Japanese art, reported earlier in this article, the kind of help that seems to be needed. The girls applied to the art teacher for Japanese pictures and for help in understanding them. She put at their disposal a good collection and gave them three or four periods of her time in explaining the drawings and answering the questions. At other times the children studied the pictures alone, or experimented with the Japanese brushes or stencils, or went on with their general reading on Japan. Such attempts to help with a project have not always been successful. A small group of boys who were studying wireless, for

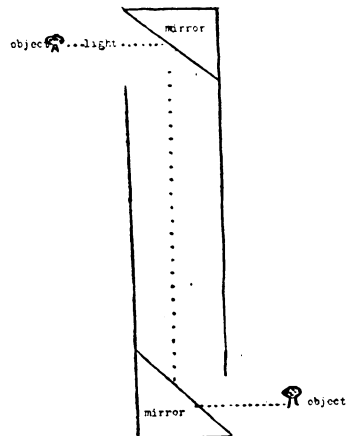


CHILDREN'S DRAWINGS OF TRAPS

TWO-SEATER BIPLANE PARTIALLY STRIPPED.



ONE TYPE OF PERISCOPE.



DRAWINGS USED IN REPORTS

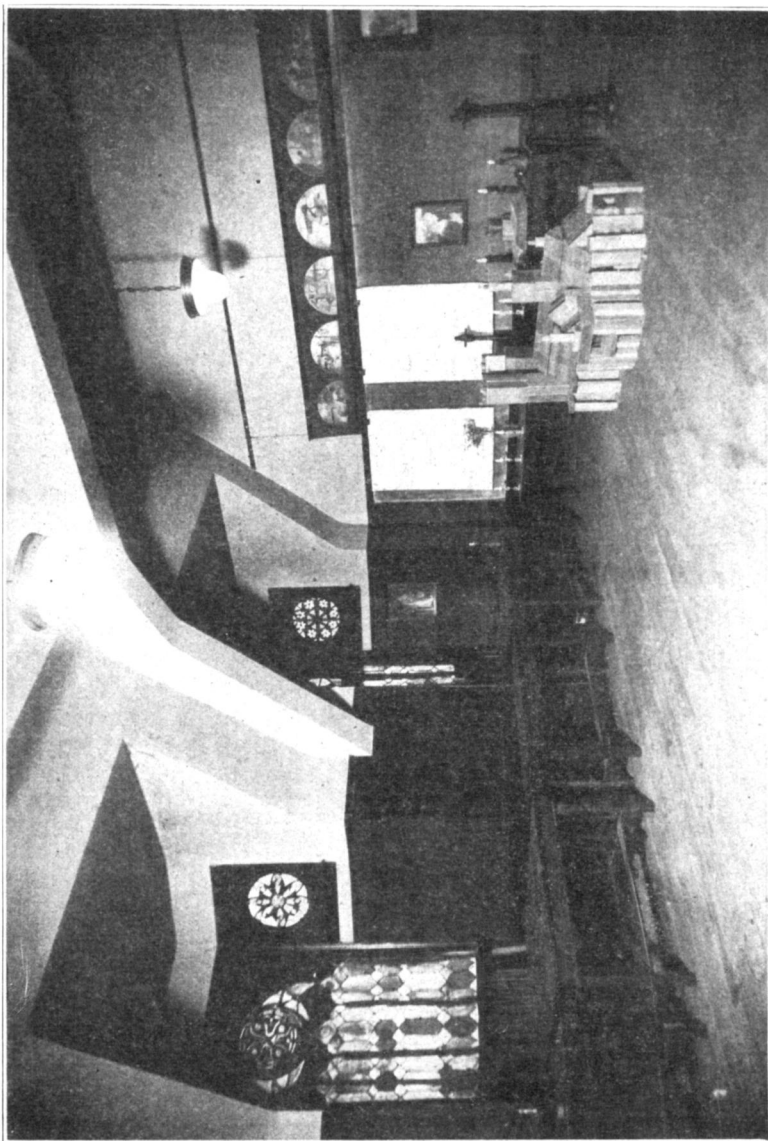
example, came back one day and said: "We think maybe we could get along by ourselves. Mr. ——— wants us to study the theory of wireless, and we don't want to. We want to set it up and learn how it works. It's all right to study the theory, only that wasn't what we wanted to do." In one other instance a teacher's attempt to swing the project into what seemed to a mature person a more

thorough, logical, and educative direction, quite took the adventure out of the self-directed plan and entirely wrecked the scheme, so that the girls appealed to me to be allowed to drop it. Another little girl, who was trying to learn about the Batik process of dyeing, courteously refused help from a teacher, evidently enjoying the thrill of her own experimenting, which, by the way, eventuated in a considerable degree of success. It is not a teacher, in the ordinary sense of the term, that is needed, but a consulting specialist.

I believe that a faculty could be organized to help and to help in the spirit of the individual project. Let me submit here a suggested plan given by another member of this faculty. It was made without much deliberation and because of lack of time has had no further consideration. Yet it seems quite possible and very stimulating and promising. Let there be for the elementary school several special teachers of specialized knowledge—drawing and painting, nature study, geography, history, physical and chemical science, clay-modeling, carpentry, metal-working, printing, photography, sewing, cooking. Let each of these teachers be in charge of a room well equipped for the pursuit of his special subject. Let it be the business of each of these people, not to teach, but to give help to those seeking it. During any time of the day children from all the elementary school might be free to go, with the consent of their class teachers, to one or another of these rooms with their varied individual projects, to ask for advice or to use equipment. If congestion resulted, certain hours could be left for children of primary grades, others for people of middle grades, still others for older children. Would not work under such conditions—choosing one's own subject, directing one's self, going at one's own speed, yet finding it possible to get expert help and advice when one needed them—would not work under such conditions be satisfying to the soul? Would it not tend to train such individuals as the world needs?

Whether any causes of failure exist in the exigencies of the method we cannot know, surely, until it has been tried by various teachers under various conditions, and until it has been done with one group of children through several years. For this is a method of living and of growing, a matter not of one isolated year, but of interlinking and mutually correcting years.

The question is often asked, "Is this method possible in schools of the ordinary type with the usual conditions?" I should think not. But neither is any other fundamentally right teaching, for



SEVENTH GRADE ROOM PREPARED FOR AN EXERCISE ON CATHEDRALS

THIS EXERCISE WAS THE RESULT OF CLASS WORK IN HISTORY. NOTE THE PAINTED WINDOWS, DRAWINGS OF CATHEDRAL PLANS, AND BLOCK MODEL MADE BY DIFFERENT CHILDREN. DESKS, MADE BY THE CLASS TO FURNISH THE ROOM, ARE ALSO SHOWN.

are not the three great fundamental needs in our common schools today more space, smaller classes, more educational material? Any other reforms seem like mere salves applied to a sore resulting from a disorder of the blood. Two big rooms for every class, one for quiet work and one for noisy work. Carpenter tools and lumber, printing press, typewriters, a mimeograph, a sewing machine, a stove and kitchen utensils, a sand table, running water, Bunsen burners, clay, plaster, plenty of paper and cardboard and crayons and paints and scissors and books and pictures, an aquarium, and a sinking fund for incidental purchases. Freedom to let children use these things and to lead them out upon excursions to fields and shops and museums. A free, fluid curriculum, growing with the children and with the conditions of the times. A faculty organized for giving individual attention to individual needs. Many an earnest and intelligent teacher knows that these are the inalienable rights of children, the indispensable and minimum prerequisites of any true education.

